## The 28th International Workshop on Weak Interactions and Neutrinos (WIN2021)



Contribution ID: 157 Type: Poster session

## New results on the Ge76 double beta decay with neutrinos and exotic decay modes from GERDA Phase II

Two-neutrino double beta  $(2\nu\beta\beta)$  decays are amongst the rarest nuclear processes ever observed. Precision studies of the electron sum energies require ultra-low background and an excellent understanding of the experiment's response. Both are key features of the Germanium Detector Array (GERDA) experiment, which searched for neutrinoless double beta  $(0\nu\beta\beta)$  decay with enriched high purity germanium detectors in Liquid Argon at Laboratori Nazionali del Gran Sasso (LNGS) in Italy. The measurement of the Standard Model  $2\nu\beta\beta$  decay half-life of <sup>76</sup>Ge was performed with unprecedented precision, profiting from the high signal-to-background ratio and the small systematic uncertainties. It provides essential inputs for nuclear structure calculations, that benefit the interpretation of  $0\nu\beta\beta$  decay results. Furthermore, the search for distortions of the  $2\nu\beta\beta$  decay spectrum allows exploring new physics, like  $0\nu\beta\beta$  decay with Majorons emission, Lorentz invariance, or search for sterile neutrinos.

The new results of the  $^{76}$ Ge  $2\nu\beta\beta$  decay half-life and improved limits on exotic decay modes will be presented in this talk.

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Session Classification: Neutrino Physics Session 2

Track Classification: Neutrino Physics